

Storm Water Management



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NPDES ?

NPDES – National Pollutant Discharge Elimination System (1972)

- **Why include storm water in NPDES permitting?**
- Traditional NPDES permitting has had much success.
 - Waste Water Treatment Plants
 - Industries
- Despite our progress, an estimated 40% of U.S. water bodies are impaired. Due primarily to polluted storm water runoff.

Storm Water Phase I

- Effective 1992
- Industrial SW General Permit
- Construction General Permit (disturbance of 5 acres or more)
- Municipal Separate Storm Sewer Systems (MS4)
 - Large (population greater than 250,000)
 - Medium (population between 100,000-250,000)

Storm Water Phase II

- Effective March 2003
- Small MS4s (population less than 100,000) based on Urbanized Areas
- 70 automatically designated SMS4s in SC
- Construction – Decreased the threshold for permitting to 1 acre or greater.

Construction permitting

■ Sediment and erosion control during construction

Erosion control -

- Phased construction sequence
- Proper stabilization
 - » Mulching
 - » Seeding
- Surface Roughening

Sediment Control -

- Sediment basin
- Silt fence
- Rock check dams
- Inlet protection



















Industrial Stormwater

- NPDES General Permit for Stormwater Discharges Associated with Industrial Activity (SCR0000000)
- Approximately 2100 industries have coverage in SC

Who is required to have coverage?

- EPA established 11 categories of industry
- Dairy processing to hazardous waste treatment facilities
- Based on SIC
- Notice of Intent (NOI)
- Notice of Termination (NOT)



“Stormwater discharge associated with industrial activity”

- Discharge from any conveyance used for collecting and conveying stormwater from areas that are directly related to manufacturing, processing or raw material storage at an applicable industry.

Primary Requirements of the Industrial SW permit?

- Prepare and implement a Storm Water Pollution Prevention Plan (SWPPP)
- Good housekeeping
- Periodic inspections to identify problems
- Stormwater monitoring (annual/semi-annual

Storm Water Pollution Prevention Plan (SWP3)

■ Contents of Plan:

- Signature and Certification
- Pollution Prevention Team
- Potential Pollutant Sources
 - » Site Map
 - » Inventory of materials at site exposed to precipitation
 - » List of significant spills or leaks
 - » Summary of storm water monitoring results (if applicable)
 - » Risk Identification and potential pollutant sources (ie. Chemicals at loading/unloading area, outdoor storage, on-site waste disposal)

Storm Water Pollution Prevention Plan (SWP3)

■ Measures and Controls

- Good Housekeeping
- Preventive Maintenance Program
- Material handling procedures, storage requirements and measures taken to prevent and clean up spills.
- Employee training
- Record keeping --Description of incidents such as spills or other discharges. Inspections.
- *Non-storm water discharge certification*
- Identify areas subject to erosion and measures taken to eliminate/limit it
- Management of runoff (eg. Infiltration, detention, reuse)

Storm Water Pollution Prevention Plan (SWP3)

- Comprehensive Site Compliance Evaluation
 - Interval must be specified in the SWP3, but must be at least once a year
 - Visual inspection looking for evidence of, or potential for pollutants entering drainage system
 - Evaluate structural storm water devices, pollutant control measures, spill response equipment, sediment and erosion control measures
 - Summary report

INDUSTRIAL STORM WATER INSPECTION CHECKLIST
(GENERAL PERMIT #SCR000000)

FACILITY NAME: _____ CERTIFICATE # _____

ADDRESS: _____

COUNTY: _____ REGION: _____ SIC CODE(S): _____

SCDHEC REPRESENTATIVE(S): _____

FACILITY REPRESENTATIVE(S): _____

DATE OF INSPECTION: _____ WEATHER CONDITIONS: _____

TIME OF ARRIVAL AT FACILITY: _____ TIME OF DEPARTURE: _____

DATE OF COVERAGE: _____ ORIGINAL SWP3 DATE: _____ LAST UPDATED: _____

SECTION I
STORM WATER POLLUTION PREVENTION PLAN REVIEW

Plan Signature and Certification

Yes ☐ No ☐ Plan properly signed and certified by an authorized representative?

Notes: _____

Pollution Prevention Team

Yes ☐ No ☐ Specific individuals or positions identified, along with their responsibilities?

Notes: _____

Site Map

Yes ☐ No ☐ Drainage area for each stormwater outfall identified?

Yes ☐ No ☐ Structural control measures used to reduce pollutants in SW identified?

Yes ☐ No ☐ Any onsite surface waters identified?

Yes ☐ No ☐ Locations of significant materials (raw materials, waste products, etc) exposed to precipitation identified?

Yes ☐ No ☐ Locations of major leaks or spills of toxic or hazardous pollutants that have occurred in areas exposed to precipitation in the past 3 years identified? ☐ N/A

Yes ☐ No ☐ Locations of potential sources of pollutants at the facility (fueling stations, maintenance, storage, loading areas, etc.) identified?

Highlights of July 2005 General Permit Changes

- TMDLs- Total Maximum Daily Load
- Must incorporate measures or controls consistent with the TMDL into your SWPPP
- Implement sampling program for the pollutant of concern in the TMDL, unless the facility can document that the pollutant is not expected to be present.
- Allows use of suitable existing data for discharges to streams with TMDL.
- Should evaluate routinely whether a TMDL has been established for your receiving stream
- Most currently developed TMDLs are for Fecal Coliform.
- <http://www.scdhec.net/eqc/water/tmdl/index.html>

July 2005 Changes

- No Exposure Certification
- Alternative Certification for specific outfall and/or specific pollutant
 - 1) Certify on an annual basis that no industrial activity is exposed to stormwater that drains to that particular outfall.
 - 2) Certify on an annual basis and provide 6 analyses made within the last 5 years showing the particular parameter is below the stream standard or the detection limit.

Top 5 Deficiencies

- No SWPPP
- Non-stormwater discharge certification
- No inspections
- No sampling data
- Housekeeping issues



















Small MS4 General Permit

- Permit effective March 2006
- Cities and Counties must design a Storm Water Management Program that includes:
 - Six minimum control measures which are expected to result in significant reductions in pollutant discharge.

Minimum Control Measures

- Must determine Best Management Practices (BMPs) and measurable goals for:
 - Public Education and Outreach
 - Public Participation and Involvement
 - Illicit Discharge Detection and Elimination
 - Construction Site Runoff Control
 - Post-Construction Runoff Control
 - Pollution Prevention/Good Housekeeping

Internet Resources

- www.scdhec.net/eqc/water/html/swnpdes.html
- www.epa.gov/npdes/stormwater
- www.lowimpactdevelopment.org

Questions?



Contact Info

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